

STATE OF CALIFORNIA
OFFICE OF THE ADJUTANT GENERAL
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CAL ARNG Regulation
No. 385-9

1 March 1985

Safety
HEARING CONSERVATION
Effective 1 March 1985

1. **REFERENCES.** a. Title 29, Code of Federal Regulations, Part 1910.95, Occupational Noise Exposure.

b. AR 40-5, Health and Environment.

c. AR 385-10, Army Safety Program.

d. NGR 385-10, Army National Guard Safety Program.

e. TB MED 501, Hearing Conservation.

f. Title 8, California Administrative Code, (CAC), Article 105, Control of Noise Exposure.

2. **PURPOSE.** This regulation establishes and outlines policies of the California Army National Guard, Medical Surveillance Program, for the control of noise hazards and prevention of hearing loss among Civilian Technicians (excepted and competitive), State Civil Service personnel, AGR and M-Day (military) personnel.

3. **SCOPE.** This regulation is applicable to all CAL ARNG/State Civil Service (Appendix C) personnel that are routinely exposed to hazardous noise during the course of their employment or performance of duty and to armories/facilities where hazardous noise areas have been identified.

4. **AUTHORITY FOR PROGRAM.** AR 40-5, Health and Environment and Title 8, CAC, Control of Noise Exposure, prescribes a comprehensive hearing conservation program for all technicians, State Civil Service and military personnel. In addition, Executive Order 12196 requires that all Federal agencies comply with the Occupational Safety and Health Act of 1970. Standards for hearing conservation are found in 29 CFR, Part 1910.95, Occupational Noise Exposure.

5. **BACKGROUND.** a. Hearing loss is the soldier's number one health hazard. Experience has shown that noise levels for such equipment as hand and shoulder fired weapons, artillery weapons, power generators, combat and tactical vehicles, construction equipment and helicopters are of such high intensity that they can cause permanent loss of hearing to the individuals who operate them, when they do not wear suitable hearing protection.

b. Individuals who suffer permanent hearing loss have a marked loss of communication ability that usually results in task errors because of misunderstanding, lack of alertness to hazards to himself and others, and a significant loss of learning ability that contributes to degrading his job performance.

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c. More than one-half of all combat troops and a significant number of civilian employees lose some degree of hearing before completing their military and civil service careers. While preventable, noise-induced hearing loss is permanent and irreversible.

6. **RESPNSIBILITIES.** a. The State Safety and Occupational Health Office (SSOHO) has responsibilities for administrating programs relating to accident prevention and the Occupational Safety and Health Act (OSHA) activities within the California Army National Guard. This office is required to:

(1) Promote understanding of the hearing conservation program through health education to induce individual awareness of the potential hazards of noise.

(2) Inform personnel of the effects of noise on hearing and how to avoid over-exposure through the proper use and care of hearing protective devices.

(3) Coordinate and provide necessary management assistance in maintaining the requirements of this Regulation.

b. CAL ARNG Technicians (excepted and competitive), State Civil Service and M-Day (military) personnel will:

(1) Exercise all necessary precautions and wear authorized and properly fitted hearing devices when exposed to hazardous noise levels and will also comply with maintenance requirements for hearing protective devices.

(2) Report for all scheduled medical examinations, evaluations and treatment, as well as health education briefings concerning noise exposure and hearing protective measures.

(3) Report any hearing problems or difficulties associated with hearing protectors currently in use to their supervisor and to their assigned Safety Representative/Supervisor.

c. All major commanders are responsible to:

(1) Coordinate and supervise the Hearing Conservation Program within their respective commands with the State Safety and Occupational Health Office.

(2) Appoint a Safety Representative (assigned Officer/NCO) at each unit to assist with the Hearing Conservation Program and provide a copy of those orders to the State Safety and Occupational Health Office.

(3) Process requests for exemption of personnel that need to be exposed to steady noise levels above 138dbA and impulse noise in excess of 173dbP to the State Safety and Occupational Health Office.

(4) Will maintain an ample supply of required ear plugs and/or ear muffs for the individuals assigned to their respective units.

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(5) Insure that ear plugs and ear plug carrying cases are a mandatory part of the duty uniform for all military personnel at all times. The placement of the earplug case is at the discretion of the Commander.

d. The responsible Commander of each Organizational Maintenance Shop (OMS) will accomplish the following in their respective work areas:

(1) Appoint an assigned Safety Representative to assist the Commander with the Hearing Conservation Program. Provide a copy of the appointment to the State Safety and Occupational Health Office.

(2) Supervise and discipline personnel for noncompliance in the use of hearing protective devices during periods they remain in hazardous noise areas.

(3) Insure that personnel comply with the requirement for audiometric examinations and refer personnel with hearing problems or complaints to their supervisor and assigned Safety Representative.

(4) Record and report permanent noise induced hearing loss as an occupational illness IAW paragraph 2-5 AR 385-40, 1 September 1980, and paragraph 5-2 NGR 385-10, 25 November 1983, to the State Safety and Occupational Health Office.

(5) Take appropriate action, whenever possible, to reassign technician/AGR personnel who have suffered significant hearing loss to a working environment that is considered to be non-noise hazardous. The action will be coordinated through Support Personnel Management Office.

(6) Will maintain an ample supply of required ear plugs and/or ear muffs for the individuals assigned to each facility.

e. The State Maintenance Officer (CSMS, MATES); USPFO; and State Aviation Officer (AVCRAD, AASF, AAFA); will have primary responsibility in their respective facilities for the following requirements:

(1) Will maintain an ample supply of required ear plugs and/or ear muffs for the individuals assigned to each facility.

(2) Supervise and discipline personnel for non-compliance in the use of hearing protective devices during periods they remain in hazardous noise areas.

(3) Insure that personnel comply with the requirement for audiometric examinations and refer personnel with hearing problems or complaints to their supervisor and assigned Safety Representative.

(4) Record and report permanent noise induced hearing loss as an occupational illness IAW paragraph 2-5 AR 385-40, 1 September 1980, and paragraph 5-2 NGR 385-10, 25 November 1983, to the State Safety and Occupational Health Office.

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f. Safety Representative's responsibilities are:

(1) To be familiar with this regulation and to assist the facility/organizational Commander with enforcement.

(2) Conduct noise-hazard evaluations at each work place, as prescribed by Appendix A, TB-MED 501, March 1980, and publish a list of these hazardous noise areas. One copy of the list will be posted at the work site and the other copy will be mailed to the State Safety and Occupational Health Office.

(3) Maintain a current inventory of all hazardous noise areas, noise levels recorded, type of hearing protectors required in these areas, and a current list of personnel that are assigned to work in each area (DD Form 2214, Noise Survey).

(4) Establish a clear demarcation line for each hazardous noise area with 85dba and higher steady state noise and 140dbP and higher impulse noise contours to indicate the extent of the area that hearing protection must be worn. The State Maintenance Office will perform this during the OMS and Local Training Areas (LTA) evaluation.

7. **POLICY.** When hazardous noise (85dba or 140dbP and higher) cannot be reduced by engineering controls (Facilities Branch), individuals exposed to such noise shall be placed under a hearing conservation program as described below:

a. Monitoring Audiometry.

(1) Technicians and AGR Personnel assigned to work in hazardous noise areas must receive an initial preplacement (reference) audiogram and a subsequent audiometric test annually. These tests will be conducted/scheduled through the State Safety and Occupational Health Office.

(2) Military (M-Day) personnel will initially be given a reference audiometric test to establish the individual's hearing threshold level and a subsequent audiometric test once every four years.

b. Hearing Protection.

(1) Measures for protecting individuals against impulse noise are the same as for steady state noise. All CAL ARNG personnel will be fitted with a set of preformed earplugs and issued a carrying case. Only earplugs approved by the Surgeon General will be used. (See Appendix A)

(a) Impulse noise such as that produced by weapons fire, punch presses and drop hammers, consists of a short burst of acoustical energy. Impulse noise is characterized by a rapid rise time of not more than 35 milliseconds to a peak pressure. The total duration of a single impulse is not more than 500 milliseconds. When the interval between peaks is one-half second or less, consider it steady noise.

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(b) Steady noise is a period of random variation in atmospheric pressure at audible frequencies. It may be continuous, intermittent or fluctuating with the sound level varying over a wide range. Commonly found in the interior of tanks, personnel carriers and truck cabs; near field electrical generator sets; in machine shops, carpenter shops and engine repair and testing shops; in any area where air-driven tools are used; near or inside aircraft in operation, on the ground and in flight; and near aircraft engines operated on stands.

(2) CAL ARNG (M-Day) military personnel will be checked for proper preformed earplug size and fit once annually by their military unit. This is because the ear canal becomes larger with age and with the habitual use of earplugs. DD Form 2215, Reference Audiogram, will be updated with the date of check entered in the remarks section.

(3) Earmuffs will be used in combination with earplugs (double protection), when personnel are exposed to steady noise levels from 108dbA (Appendix B) and for impulse noise levels of 165dbP up to 173dbP. Ear muffs available through the Federal supply channel will be used.

(4) Personnel will not be exposed to steady noise levels in excess of 138dbA without the specific approval of the State Safety and Occupational Health Office. Such exposure exceeds the protective limits of hearing protectors worn in combination, even with time limitation taken into consideration.

(5) Personnel will not be exposed to impulse noise levels in excess of 173dbP without the specific approval of the State Safety and Occupational Health Office. Such exposure can result in non-auditory physiological damage to the body's gas-containing organs.

c. Education, Supervision and Discipline.

(1) Education, supervision and discipline of personnel are major factors in prevention of noise-induced hearing loss, especially when reliance is placed upon personal protective measures. Unit commanders and technician supervisors will insure personnel performing duties in hazardous noise areas are informed of the harmful effects of noise and instructed to avoid exposure by wearing hearing protectors. Training should emphasize the proper use and care of hearing protectors. Educational materials and assistance can be provided through the State Safety and Occupational Health Office.

(2) Where educational measures fail to achieve compliance with hearing conservation measures, disciplinary action such as warning or reprimand, reduction in rank or removal from job should be considered for military personnel. When civilian technicians deliberately or carelessly violate regulations regarding the wearing of hearing protective devices, the provisions of Chapter 7, TPR 753 should be applied. For disciplinary actions pertaining to State Civil Service employees, para 24, CAL ARNGR 890-3/CA ANGR 40-03 will apply.

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8. PROCEDURES. a. Hearing Protectors.

(1) Unit/activities will obtain and issue only approved preformed earplugs and cases to every individual.

(2) Fitting of earplugs will be accomplished by qualified medical personnel or by unit personnel that have been trained through a program developed by the State Safety and Occupational Health Office.

(3) Use of yellow/white foam plugs is permitted to accommodate visitors in hazardous noise areas and for personnel who do not have fitted preformed earplugs. However, limitations of their use must be made known to users.

(a) Foam plugs readily absorb dirt and other contaminants from hands. Hands must be clean when hand forming and inserting plugs.

(b) Individuals that work with irritants such as JP4 fuel, should not use foam plugs.

(c) Yellow/white foam plugs may be used until discoloration or disfiguration occurs. At this point, they begin to lose their effectiveness.

(4) An adequate supply of hand formed foam plugs should be maintained aboard aircraft, at firing ranges, airfields, Local Training Areas (LTA) and any other hazardous noise area.

b. Audiometric Examination.

(1) The importance of monitoring audiometry in the Hearing Conservation Program cannot be overemphasized. The purpose of monitoring audiometry is to detect changes in the individual's hearing sensitivity due to noise exposure. It also serves as a valuable indicator of the effectiveness of the Hearing Conservation Program by measuring the amount of hearing loss found in any given location, unit or activity.

(2) A copy of DD Form 2215 will be filed as a permanent part of the individual's health record at his parent unit and with the State Safety and Occupational Health Office.

(3) All CAL ARNG (M-Day) military personnel must receive a Hearing Conservation Audiogram (DD Form 2216), once every four years. The audiogram will be given during their scheduled four year retention physical examination. The provisions of paragraph 7b(2) and (3), above, also apply to the annual Hearing Conservation Audiogram.

Technicians and AGR personnel who are exposed to hazardous noise due to their employment will receive an annual audiogram as part of the State Safety and Occupational Health Office's Medical Surveillance Program.

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c. Noise Surveys.

(1) Due to the limited availability of sound measuring equipment, the State Maintenance Officer, State Aviation Officer and USPFO will schedule a noise survey of their activities through the SSOHO.

(2) The survey will identify all hazardous noise areas. DD Form 2214 (Noise Survey) will be used to record the results and a copy of the form will be maintained on file in the unit/activity for a minimum of five years. A copy of DD Form 2214 will be forwarded to the State Safety and Occupational Health Office.

(3) The State Safety and Occupational Health Office will publish and maintain the status of identified hazardous noise areas.

(4) Commanders/supervisors requesting a noise survey following a change in the operation affecting noise levels, or suspected hazardous noise areas or equipment should contact their assigned Safety Representative.

d. Posting of Hazardous Noise Areas and Equipment.

(1) Conspicuous posting of hazardous noise areas and equipment is one of the most effective motivational aspects of the hearing conservation program. A direct correlation is seen between the presence of caution signs and personnel using hearing protectors.

(2) Unit commanders and activity supervisors will post areas identified by the noise survey as hazardous noise areas with caution signs, as prescribed by paragraph 6, TB MED 501, March 1980.

(3) Self-affixing caution decals for hazardous noise equipment are available through the Federal Supply System.

9. Any questions regarding this regulation may be directed to the SSOHO at AV 466-6568 or (916) 920-6568.

APPENDIX A

ORDERING EAR PROTECTION EQUIPMENT

Listed are nomenclatures and NSNs for ordering earplugs, earplug cases and aural protectors from the Army Master Data File (AMDF).

1. Preformed Earplugs

Recommended Planning Factor
Distribution of Sizes
(Percent/100 individuals)

a. Plug, Ear, Hearing Protection, triple flange, 24s

NSN 6515-00-442-4821 (small, green)	5%
NSN 6515-99-442-4818 (regular, int. orange)	75%
NSN 6515-00-467-0092 (large, blue)	20%

b. Plug, Ear, Hearing Protection, single flange, 24s

NSN 6515-00-442-4765 (extra small, white)	5%
NSN 6515-00-467-0085 (small, green)	15%
NSN 6515-00-467-0089 (medium, int. orange)	35%
NSN 6515-00-442-4807 (large, blue)	30%
NSN 6515-00-442-4813 (extra large, red)	15%

2. Handformed Earplugs

Plug, Ear, Hearing Protection, Universal Size, Yellow

NSN 6515-00-137-6345 200 pairs, each pair in paper container

3. Earplug Case

Case, Earplug, with earplug inserter, 20s

NSN 6515-01-100-1674 A combination earplug inserter and carrying case.
Non-reflective, olive drab plastic case, suited
for use by military personnel, 2 sets per pkg.

4. Aural Protector, Sound, Earmuff type

NSN 4240-00-759-3290 Aural Protector, sound, tan

NSN 4240-00-022-2946 Aural Protector, sound, Type II

APPENDIX B

HAZARDOUS NOISE AREA TIME LIMITATIONS

HEARING PROTECTION GUIDE

STEADY NOISE LEVEL	TYPE PROTECTION	EXPOSURE TIME LIMIT PER DAY
85dbA to 108dbA	Earplugs or Muffs	No limit
108dbA to 118dbA	Combination of Earplugs with Muffs	No limit
119dbA to 122dbA	"	Less than 4 hours
123dbA to 126dbA	"	Less than 2 hours
127dbA to 130dbA	"	Less than 1 hour
131dbA to 134dbA	"	Less than 1/2 hour
135dbA to 138dbA	"	Less than 1/4 hour
Over 138dbA	Exposure not permitted without specific approval of the Command Surgeon/Medical Authority.	

Establishment of Hazardous Noise Areas will be accomplished by a noise survey. Determination of hearing protection required and exposure limits will be made by the individual conducting the survey and will be recorded on DD Form 2214, a copy of which will be posted at the location tested.

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APPENDIX C

STATE CIVIL SERVICE EMPLOYEES

State employees assigned to work in hazardous noise areas (85dbA or 140dbP and higher) must receive an initial preplacement reference audiogram and a subsequent audiometric test annually. (Paragraphs C & D, Title 8, CAC, Article 105, Section 5097.

Requests for audiometric examinations must be submitted to the State Personnel Office (CARM-SP) for review and approval.

Hearing protection will meet the standards of Title 8, CAC, Article 105, Section 5098. All requests may be submitted to CAST-PC on CAL NG Form 210-20.

The following list of job titles are state employees most likely to be exposed to hazardous noise:

Automobile Mechanic

Carpenter I & II and Supervisor

Fire Fighter/Security Guard

Fusion Welders

Heavy Equipment Mechanic

Maintenance Mechanic

Painter

Plumber I & II and Supervisor

Groundskeeper

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BY ORDER OF THE GOVERNOR:

OFFICIAL:

WILLARD A. SHANK
Major General
The Adjutant General

